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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,354	09/24/2003	Saed Sayad	059108-0001	4714

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EXAMINER	
ALLEN, NICOLE L	

ART UNIT	PAPER NUMBER
2129	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,354	SAYAD, SAED	
	Examiner	Art Unit	
	Nicole L. Allen	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US Patent No. 6,553,366)

As per claims 1, 10, 11, 17, 21 Miller et al. discloses a computer implemented system (Fig. 1, Ref.100) for enabling data analysis comprising:

A computer linked (Fig. 1, Ref. 118) to one or more data sources (Fig. 1) adapted to provide to the computer a plurality of knowledge elements (attribute definitions, Col. 11, Lines 53-62)

an analytical engine (Fig. 2, Ref. 200, Analytic Logical Data Model, Col. 5,Lines 15-17, Col. 11, Lines 53-55), executed by the computer, that relies on one or more of the plurality of knowledge elements to enable intelligent modeling, wherein the analytical engine includes a data management system (Relational Database Management System) for accessing and processing the knowledge elements.

Miller does not disclose the analytical engine includes a data management system however, column 11 lines 53-54 state the analytic logical data model is integrated with the relational database116. Miller also state in column 6 lines 32-39 that alternative configurations may be used without departing from the scope of the invention which mean those skilled in the art can say that it is obvious that the analytic logical data model can include the

relational database without departing from the scope of the invention.

As per claims 2 and 22, Miller et al. discloses the computer implemented system claimed in claim 1, wherein the analytical engine defines one or more knowledge entities, each of which is comprised of at least one knowledge element (Col. 11, Lines 53-58, logical entity contains metadata and results).

As per claims 3 and 23, Miller et al. discloses the computer implemented system as claimed in claim 2, wherein the analytical engine is adapted to update dynamically the knowledge elements with a plurality of records and a plurality of variables (Col. 11, Lines 53-Col 12, Line 4).

As per claim 4 and 24, Miller et al. discloses the computer implemented system claimed in claim 2, wherein the knowledge entity consists of a data matrix having a row (Col. 6, line 59, observations are considered rows) and a column (Col. 6, line 59, variables are considered columns) for each variable, and wherein the knowledge entity accumulates sets of combinations of knowledge elements for each variable in the intersection of the corresponding row and column (Col. 9, Lines 18-24, the function "Join" combines tables into a combine result table (matrix)).

As per claims 5 and 25, Miller et al. discloses the computer implemented system as claimed in claim 4, wherein the analytical engine enables variables and/or records to be dynamically added (Col. 6,Lines 53-55, Data Derivation) to, and subtracted from (Col. 6, Lines 58-62, Data Reduction) the knowledge entity.

As per claims 6 and 26, Miller et al. discloses the computer implemented system claimed in claim 5, wherein the analytical engine enables the deletion of a variable by deletion of the corresponding row and/or column (Col. 6, Lines 58-62), and wherein the knowledge entity remains operative after such deletion (the knowledge entity is able to

use scalable data mining functions after the deletion).

As per claims 7 and 21, Miller et al. discloses the computer implemented system claimed in claim 5, wherein the analytical engine enables the addition of a variable by addition of a corresponding row and/or column to the knowledge entity (Col. 6, Lines 53-64, Data Derivation), and wherein the knowledge entity remains operative after such addition (the knowledge entity is able to use scalable data mining functions after the addition).

As per claims 8 and 28, Miller et al. discloses the computer implemented system claimed in claim 5, wherein an update of the knowledge entity by the analytical engine does not require substantial re-training or re-calibration (Col. 11, Lines 21-27) of the knowledge elements (Col. 11, Line 53-Col. 12 Line 4, the Analytic Logical Data Model is updated using analytic processing).

As per claims 9 and 29, Miller et al. discloses the computer implemented system claimed in claim 2, wherein the analytical engine enables application to the knowledge entity of one or more of: incremental learning operations, parallel processing operations (Col. 4, Lines 34-35, Col. 11, Lines 32-34), scenario testing operations, dimension reduction operations (Col. 9, Lines 5-15), dynamic query operations (SQL, Col. 6 Lines 1-3) or distributed processing operations.

As per claims 12 and 18, A method of enabling parallel processing, comprising the steps of:

Providing an analytical engine (Fig. 2, Ref. 200, Analytic Logical Data Model), executed by a computer, that relies on one or more of a plurality of knowledge elements (attribute definitions, Col. 11, Lines 53-62) to enable intelligent modeling, wherein the analytical engine includes a data management system (Fig. 2, Ref. 114, Relational Database Management System) for accessing and processing the knowledge elements

Subdividing one or more databases into a plurality of parts and calculating a knowledge entity for each part using the same or a number of other computers to accomplish the calculations in parallel (Col. 9, Lines 54-67, examiner reads Partitioning as a form of dividing)

Combining all or some of the knowledge entities to form one or more combined knowledge entities (Col. 9, Lines 34-35, examiner reads Joining as a form of combining entities (tables) to make a result table).

Applying the intelligent modeling to the knowledge elements of the combined knowledge entities so as to engage in data analysis (Data analysis is engaged when results are formulated)

As per claim 13, Miller et al. discloses the method of enabling scenario testing, wherein a scenario consists of a test of a hypothesis, comprising the steps of

Providing an analytical engine, (Fig. 2, Ref. 200, Analytic Logical Data Model), executed by a computer, that relies on one or more of a plurality of knowledge elements (attribute definitions, Col. 11, Lines 53-62) to enable intelligent modeling, wherein the analytical engine includes a data management system (Fig. 2, Ref. 114, Relational Database Management System) for accessing and processing the knowledge elements, whereby the analytical engine is responsive to introduction of a hypothesis to create dynamically one or more new intelligent models (Col. 9, Lines 34-35, examiner reads Joining as a form of combining entities (tables) to make a result table)

Applying the one or more new intelligent models to see future possibilities, obtain new insights into variable dependencies as well as to assess the ability of the intelligent models to explain data and predict outcomes (Col. 2, Lines 25-39).

As per claim 14, Miller et al. discloses a method of enabling dimension reduction, comprising the steps of

Providing an analytical engine (Fig. 2, Ref. 200, Analytic Logical Data Model), executed by a computer, that relies on one or more of a plurality of knowledge elements (attribute definitions, Col. 11, Lines 53-62) to enable

intelligent modeling, wherein the analytical engine includes a data management system (Fig. 2, Ref. 114, Relational Database Management System) for accessing and processing the knowledge elements

Reducing the number of variables (Data Reduction, Col. 6, Lines 58-62) in the knowledge entity by the analytical engine defining a new variable (Col. 6, Lines 53-57) based on the combination of any two variables, and applying the new variable to the knowledge entity.

As per claim 15, Miller et al. discloses the method as claimed in claim 14, further comprising the step of successively applying a series of new variables (Col. 6, Lines 53-57) so as to accomplish further dimension reduction (Data Reduction, Col. 6, Lines 58-62, Col. 8, Lines 59-67).

As per claim 16, Miller et al. discloses a method of enabling dynamic queries

Providing an analytical engine (Fig. 2, Ref. 200, Analytic Logical Data Model), executed by a computer, that relies on one or more of a plurality of knowledge elements)attribute definitions, Col. 11, Lines 53-62) to enable intelligent modeling, wherein the analytical engine includes a data management system (Fig. 2, Ref. 114, Relational Database Management System) for accessing and processing the knowledge elements

Establishing a series of questions that are directed to arriving at one or more particular outcomes (Col. 2, Lines 28-39)

Applying the analytical engine so as to select one or more sequences of the series of questions based on answers given to the questions, so as to rapidly converge on the one or more particular outcomes (Col. 2, Lines 34-39).

As per claim 17, Miller et al. discloses a method of enabling distributed processing

Providing an analytical engine (Fig. 2, Ref. 200, Analytic Logical Data Model), executed by a computer, that relies on one or more of a plurality of knowledge elements (attribute definitions, Col. 11, Lines 53-62) to enable

intelligent modeling, wherein the analytical engine includes a data management system (Fig. 2, Ref. 114, Relational Database Management System) for accessing and processing the knowledge elements, whereby the analytical engine enables the combination of a plurality of knowledge entities into a single knowledge entity

Applying the intelligent modeling to the single knowledge entity (Result Table,(matrix). Examiner uses the end result table as a single knowledge entity).

As per claim 19, Miller et al. discloses the computer-implemented system claimed in claim 18, wherein the knowledge entity is portable to one or more remote computers (Fig. 1, Ref. 118, there are a plurality computers, clients disclosed in this system)

As per claim 20,Miller et al. discloses the computer-implemented system claimed in claim 1, wherein the intelligent modeling applied to relevant knowledge elements enables one or more of:

a) credit scoring

b) predicting portfolio value from market conditions and other relevant data

c) credit card fraud detection based on credit card usage data and other relevant data

d) process control based on data inputs from one or more process monitoring devices and other relevant data

e) consumer response analysis based on consumer survey data, consumer purchasing behaviour data, demographics, and other relevant data

f) health care diagnosis based on patient history data, patient diagnosis best practices data, and other relevant data

g) security analysis predicting the identity of a subject from biometric measurement data and other relevant data

h) inventory control analysis based on customer behaviour data, economic conditions and other relevant data (Col. 2, Lines 21-24)

i) sales prediction analysis based on previous sales (Col. 2, Lines 9-13), economic conditions and other relevant data

j) computer game processing whereby the game strategy is dictated by the previous moves of one or more other players and other relevant data

k) robot control whereby the movements of a robot are controlled based on robot monitoring data and other relevant data

l) a customized travel analysis whereby the favorite destination of a customer is predicted based on previous behavior and other relevant data.

As per claim 30, Miller et al. discloses a computer-implemented system as claimed in claim 1, wherein the analytical engine enables process control (Col. 11, Lines 53-58, it is capable of providing logical entity and attribute definitions for processing).

As per claim 31, Miller et al. discloses the computer-implemented system as claimed in claim 30, wherein the analytical engine enables fault diagnosis (Col. 2, Lines 14-34).

As per claim 32, Miller et al. discloses a method according to claim 11, wherein the method is implemented in a digital signal processor chip or any miniaturized processor medium (Fig. 2, Ref. 200, examiner reads the Analytical logic Data Model as a miniaturized processor medium because it is located inside database management system and capable of analytical processing).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole L. Allen whose telephone number is (571) 272-5830. The examiner can normally be reached on Monday-Friday 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David Vincent 5/24/06
David Vincent
Supervisor Patent Examiner

NLA